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which the hands were washed showed a strong test for nitrites. It was also shown that the air was very thoroughly washed from nitrites during a heavy shower.

Mr. Defren's results seem conclusive as to the presence of nitrites in the air; that nitrites have a powerful effect upon the human organism is well known; whether the quantity in the air may become large enough, from lack of ventilation, to cause the well known symptoms of oppression, is a point left for further investigation. At all events Mr. Defren's work is a valuable contribution to the problem. A single criticism might be offered, that no account appears to be taken of the fact that nitrous acid, when in solution, is rapidly oxidized by hydrogen peroxid to nitric acid, and similarly ammonia is oxidized to nitrous acid. Wurster's work on this point seems not to be noticed, though the article (Ber. 19: 3206) is mentioned in a foot note. This reaction might cause Mr. Defren's results to be too low for the amount of nitrous acid in the air, and would probably account for the apparent absence of nitrites in air exhaled through water.

Apropos of air analysis, Dr. T. L. Phipson communicates to the last *Chemical News* a unique method of removing the oxygen from the air. A graduated bell jar filled with air is placed over water. Suspended in the bell jar and not touching the water is a mushroom, *Agaricus atramentarius*. Exposed now to the sunlight, the mushroom rapidly and *quantitatively* absorbs the oxygen of the air, the carbon dioxid given off dissolving in the water, which rises in the bell jar one-fifth of the height. The mushroom itself dries up, becoming mummified in nitrogen. If now a green plant, as *Lysimachia nummularia*, be placed alongside the mushroom, the latter will recommence slowly to vegetate, living on the oxygen furnished by the green plant.

J. L. H.

SCIENTIFIC NOTES AND NEWS.

THE details of the approaching meeting of the American Society of Naturalists can now be announced. After the business meeting, on the afternoon of Tuesday, December 29th, the 'Inheritance of Acquired Characteristics' will be discussed by Prof. C. S. Minot, Prof. J. M. Macfarlane, Prof. E. D. Cope and Prof. Wm. James. In the evening, at the Fogg Museum of Art, Harvard University, Cambridge, Mr. Alexander Agassiz will give a lecture, the subject of which will be announced later, and will afterwards hold a reception at his residence. At noon on Wednesday there will be a lecture by Prof. E. B. Wilson, on 'Recent Developments of the Cell Theory,' which will be followed by a luncheon, given by the President and Fellows of Harvard College. In the afternoon Mr. Agassiz will meet the Society in the Museum of Comparative Zoology and describe the Museum. The annual dinner of the Affiliated Societies will take place in the evening at the hotel Brunswick, at which an address will be given by the President, Prof. W. B. Scott.

As we have already stated, the ninth annual meeting of the Geological Society of America will be held at Washington on December 29th, 30th and 31st. The President, Prof. Joseph Le Conte, has chosen as the subject of his address 'The Different Kinds of Earth-crust Movements and their Causes.' Papers have been entered to be read by J. S. Diller, N. H. Darton, Frank Leverett, J. F. Kemp, C. Willard Hayes, Marius R. Campbell, J. B. Woodworth, C. H. Hitchcock, Robert Bell, J. W. Spencer, Ralph S. Tarr, H. L. Fairchild, Angelo Heilprin, George H. Barton, F. B. Taylor, Harry Fielding Reid, Bailey Willis, Warren Upham, Charles R. Keyes, J. E. Wolff, A. H. Brooks, Joseph F. James, Henry S. Williams, David White, Henry B. Kümmel, William M. Clark, T. W. Stanton, F. H. Knowlton, E. H. Barbour, G. Perry Grimsley, George P. Merrill, Alfred C. Lane, Arthur Keith and G. K. Gilbert.

WE regard it as somewhat unfortunate that after meeting at the same place as the Naturalists last winter the Geologists should this year

meet in Washington, and the Folklore Society in New York. If the 'Jurassic Formation on the Atlantic Coast' is discussed should this be done in Boston or in Washington? If arrangements are made for a winter meeting of Anthropologists should it be done in New York or in Boston? We should like to suggest that in any event all the societies meet in New York two years hence. At that time the new buildings of Columbia University can be placed at the disposal of the societies and will offer much of interest. New York University will also be established in its fine buildings on its picturesque site. Other attractions of great scientific interest will be the Aquarium, the new wings and collections of the American Museum of Natural History, the Botanical Gardens and perhaps the Zoological Park.

THE New York Aquarium in Castle Garden was opened to the public on December 10th. We hope to give in an early number some account of the excellent arrangements carried out under the direction of Dr. Tarleton H. Bean.

A COMMITTEE of the New York Zoological Society met a committee of the Sinking Fund Commission on December 11th, and formally asked for the setting aside of 261 acres of land in Bronx Park for the Zoological Park. The members of the committee said that the Society would raise \$250,000 for the purpose, and that they would collect \$100,000 of this sum as soon as the necessary land had been set aside for the Park. The Mayor and Sinking Fund Commission will, we trust, decide in favor of a plan so important for the city.

THE Derby and Mayer Museums, Liverpool, will be enlarged at a cost of £72,000, but part of the building will be used for technical schools.

It is now proposed that the Sedgwick Memorial Museum, Cambridge University, be erected upon a portion of the Downing College site, and that the grace of the Senate which assigned a site for the building on the old Botanic Garden be rescinded. If the site be changed it will be necessary to make new plans for the building.

THE Hebdomadal Council of Oxford University has received and accepted an offer from Professor Poulton to present a statue of Charles

Darwin, to be made by Mr. Pinker, and to be placed in the court of the University Museum.

SIR JOSEPH PRESTWICH bequeathed, to take effect on the death of Lady Prestwich, £800 to the Geological Society of London for the establishment of a medal and fund to be awarded once in three years. He also left his collection of pamphlets and reprints to the Society.

THE Paris Academy of Sciences selected, on November 23d, two candidates for the directorship of the Observatory of Paris, vacant by the death of Tisserand. In the first ballot M. Loewy received 42 votes, M. Callandreau 18, and M. Poincaré 1. In the second ballot M. Callandreau received 48 votes, M. Stéphan 2, and MM. Poincaré and Wolf each 1. MM. Loewy and Callandreau are consequently the two candidates presented by the Academy to the Minister of Public Instruction. At the same meeting of the Academy M. Michel Lévy was elected a member of the section of mineralogy, in the place of the late M. Daubrée. He received 54 votes, 2 being given to M. de Lapparent.

PROF. ALPHEUS PACKARD was, on October 1st, elected an honorary member of the Russian Entomological Society.

DR. LEONARD J. SANFORD, who formerly occupied the chair of anatomy and physiology in the medical department of Yale University, died in New Haven on December 12th, at the age of 64 years.

DR. EMIL WOLFF, the chemist, died at Stuttgart on December 7th.

ACCORDING to *Garden and Forest* Mr. C. G. Pringle has just returned from another botanical journey in Mexico, where, during the past season, he has secured about 20,000 herbarium specimens in the valley of Mexico and in Cuernavaca.

DR. NANSEN has ordered a yacht of twenty tons to be built at Laurvig, and intends to continue on it his studies of the coast of Norway and Spitzberg.

THE following items of news are from the current number of *Natural Science*. A portion of the bequest made to the Swedish Academy of Sciences by A. F. Regnell, whose fortune was made as a physician in Brazil, was set aside by

the Academy to promote the study of the Brazilian flora. Every six years it yields about £1,150, which is applied in sending two Swedish botanists to Brazil for two years. The first expedition was undertaken by Drs. C. A. M. Lindman and G. O. A. Malme, who in 1892-94 explored Rio Grande, Paraguay and Matto Grosso. Dr. T. N. Tschernyschew, of the Russian Geological Survey, has completed his observations on Nova Zembla. This island bears traces like those in north Russia, of a formidable glaciation, followed by subsidence, during which the whole territory was transformed into an archipelago. Terraces, containing the shells of arctic molluscs, extend along the shores to a height of 160 meters. The present glaciers are in a period of growth. Prof. F. Regel, of Jena, went to Columbia last July on a voyage of exploration, to last some nine months. M. Maindron, the entomologist, has been commissioned by the French government to make a collecting expedition to the Persian Gulf and India.

THE publication of *The Astronomical Journal* will be continued by Dr. S. C. Chandler, who cooperated with Dr. Gould in editing the *Journal*. With the assent of the family, it has been decided to place in the title-heading of each number, and upon the title-page of each volume, the words 'Founded by B. A. Gould,' as a permanent memorial.

THE Torrey Botanical Club, New York, offers to supply a complete set of the *Memoirs*, five volumes, of which a considerable number remain undistributed, published at \$15.00, for half price, or \$7.50, the offer to hold good only until January 1, 1897. It is proposed to apply the money derived from these sales to reprinting the numbers of the *Bulletin* which are out of print.

THE Commissioner of Labor, Mr. Wright, has submitted to the House of Representatives a plan for the organization of a permanent Census Bureau in Washington. He proposes a separate Census Bureau under the control of a Director of the Census, at a salary of \$6,000 a year, with an assistant, at \$4,000 a year. The other officers include a chief clerk, at \$2,500; a disbursing clerk, at \$2,500, and five

chief statisticians, at \$3,000, each, a year. Such further assistance as may be necessary shall be employed from time to time, the appointments being under civil service laws. It is provided that a general census shall be taken April 15, 1900, and every ten years thereafter, which will include a wide field of inquiry and investigation, of which we hope to give the details when settled.

WE called attention last week to the meeting of the New York State Science Teachers' Association, at Syracuse, on December 29th, 30th and 31st. The leaders in the discussions have now accepted and are as follows: *Physics and Chemistry*, Prof. A. L. Arey, of the Rochester Free Academy, and Dr. E. L. Nichols, of Cornell University; *Physical Geography and Geology*, Prof. R. S. Tarr, of Cornell University; Dr. Richard E. Dodge, of the Teachers' College, New York City, and Dr. Frank McMurtry, of the Buffalo School of Pedagogy; *Biology*, Prof. Charles Wright Dodge, of Rochester University, and Dr. Thomas B. Stowell, Principal of the Potsdam Normal School.

THE anniversary meeting of the Royal Society was held at Burlington House on November 30th. The President, Sir Joseph Lister, made an address. He said, according to the report in the *British Medical Journal*, that the Council, in framing new rules for the conduct of the meetings and as to the publications of the Society, had desired, in the first place, to increase the interest of the meetings by giving greater freedom in their conduct and by enlarging the opportunities for discussion; and in the second place to obtain more secure and more rapid judgment on the value of papers, so that while the high standard of the *Philosophical Transactions* was retained, or even raised, greater rapidity in the publication both of them and of the *Proceedings* might be attained. The International Conference on the desirability and possibility of compiling and publishing, by international cooperation, a complete catalogue of scientific literature had agreed to the proposal, and had advised that the scheme should be carried out by an international central bureau, under the direction of an international council. Steps had been taken to encourage the practice

of appending subject indices to the papers published by the Society. Sir Joseph Lister then referred to the universal attention attracted to Röntgen's great discovery. He then passed in review some of the more important papers communicated to the Society during the year, and, in speaking of biology, alluded especially to the work of Prof. Schäfer, Prof. Farmer and Mr. Lloyd Williams. The presentation of medals then took place in the manner that we have already announced. In the evening Sir Joseph Lister presided at a dinner at which were present many distinguished guests and a large number of Fellows of the Society.

THE Appalachian Mountain Club, of Boston, has secured new and commodious rooms in the Tremont Building. They are centrally located and with a fine view, stretching from Big Blue to Prospect (the highest elevations near Boston), and including the Charles River basin and the State House. The library is now safely housed in a fire-proof building. The rooms are used for Council and Committee meetings, exhibitions and small social gatherings; they contain the library and collections, and are the workshop and office headquarters of the Club. The rooms are under the general supervision of the Room Committee and are open to all members from 3 to 5:30 p. m., under the charge of volunteer custodians.

Natural Science gives some account of the Institute of Jamaica, taken from its report for the year ending March, 1896. The museum has been removed from the lower floor of Date Tree Hall to adjoining new premises. These consist of two floors, the lower devoted to the collections of the Government Geological Survey, the Jamaica woods and most of the natural history collections; the upper floor is filled with the anthropological and the rock and mineral collections. By reason of these changes the library accommodation has been greatly increased, and the art department given room to develop. An attempt has been made to increase the public interest in the museum and natural history generally by the publication of museum notes in the Kingston newspapers. There has been an increase of 28 per cent. in the attendance of visitors to the museum.

UNIVERSITY AND EDUCATIONAL NEWS.

PROF. M. J. ELROD, of the Illinois Wesleyan University, has resigned to accept the chair of biology in the Montana State University.

THE following further appointments have been made at the Massachusetts Institute of Technology: Samuel C. Prescott, instructor in biology; Edward M. Bragg, assistant in mechanical engineering; Leonard H. Goodhue, assistant in analytic chemistry; Amadeus W. Grabau, assistant in geology; Minor S. Jamieson, assistant in civil engineering; Albert J. Wells, assistant in mechanical drawing; Clarence W. Perley, assistant in biology.

M. POINCARÉ, now professor of mathematical physics and the theory of probabilities in the faculty of sciences of the University of Paris, has, at his request, been transferred to the chair of mathematical astronomy. M. Boussinesq, now professor of mechanics, takes the chair vacated by M. Poincaré.

THERE is now once more a University of Paris. The various faculties at Paris have been reorganized with a certain freedom from government control. The inauguration of the University has been celebrated in the new buildings of the Sorbonne with suitable ceremonies, which included an oration by M. Lavissee.

DISCUSSION AND CORRESPONDENCE.

X-RAYS.

TO THE EDITOR OF SCIENCE: The remark has been frequently made that the almost complete absence of specular reflection in the case of the X-rays may depend upon the want of sufficient polish of the reflecting surface. So far as I have noticed, no one has tried the experiment with mercury as the reflector. Very simple arrangements would admit of obtaining a perfectly plane surface, which, as to reflecting power, would leave nothing to be desired. A concave surface of mercury might be found to converge the rays.

M. CAREY LEA.

REPLY TO PROFESSOR HALSTED.

IN the last number of SCIENCE Prof. Halsted, by bringing into juxtaposition two statements which were widely separated in a recent note